FIG. 1

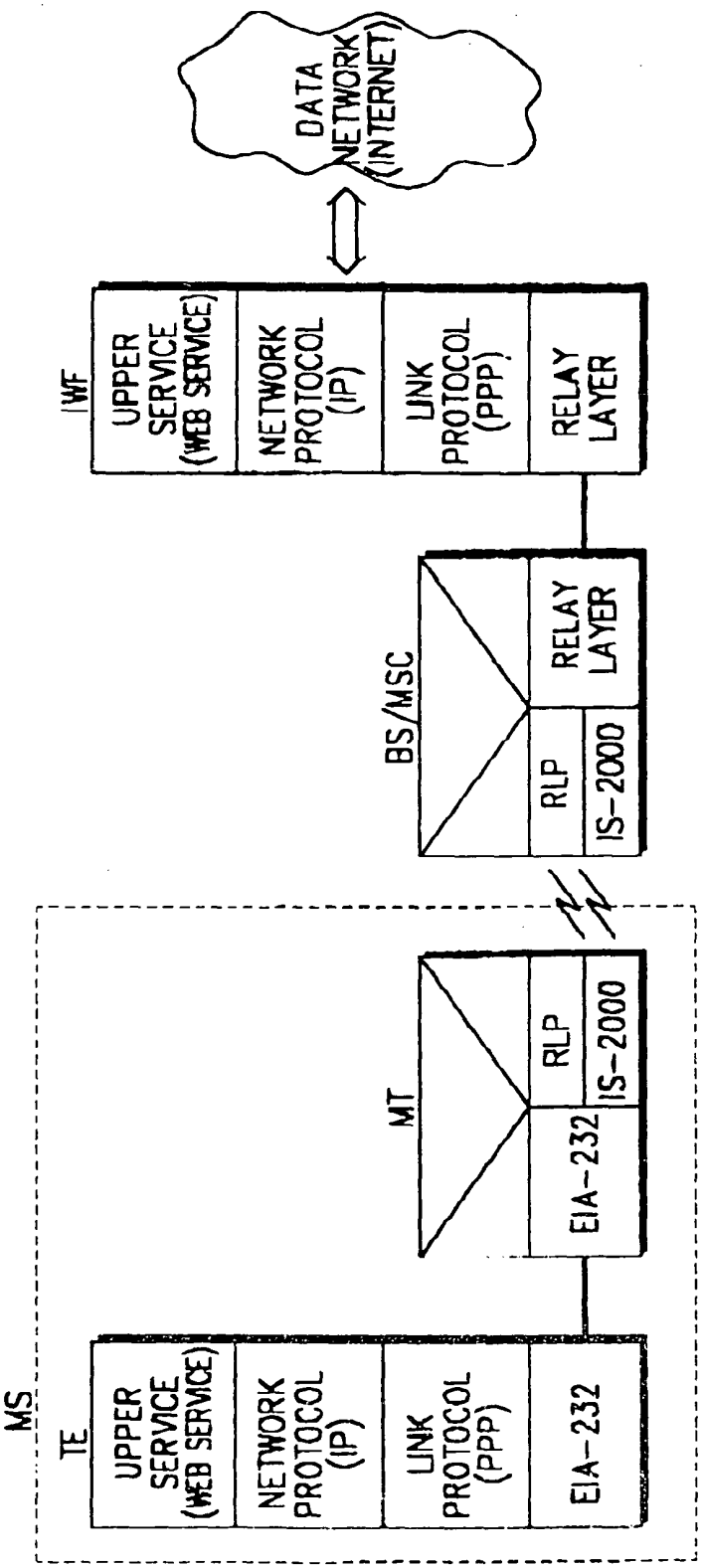
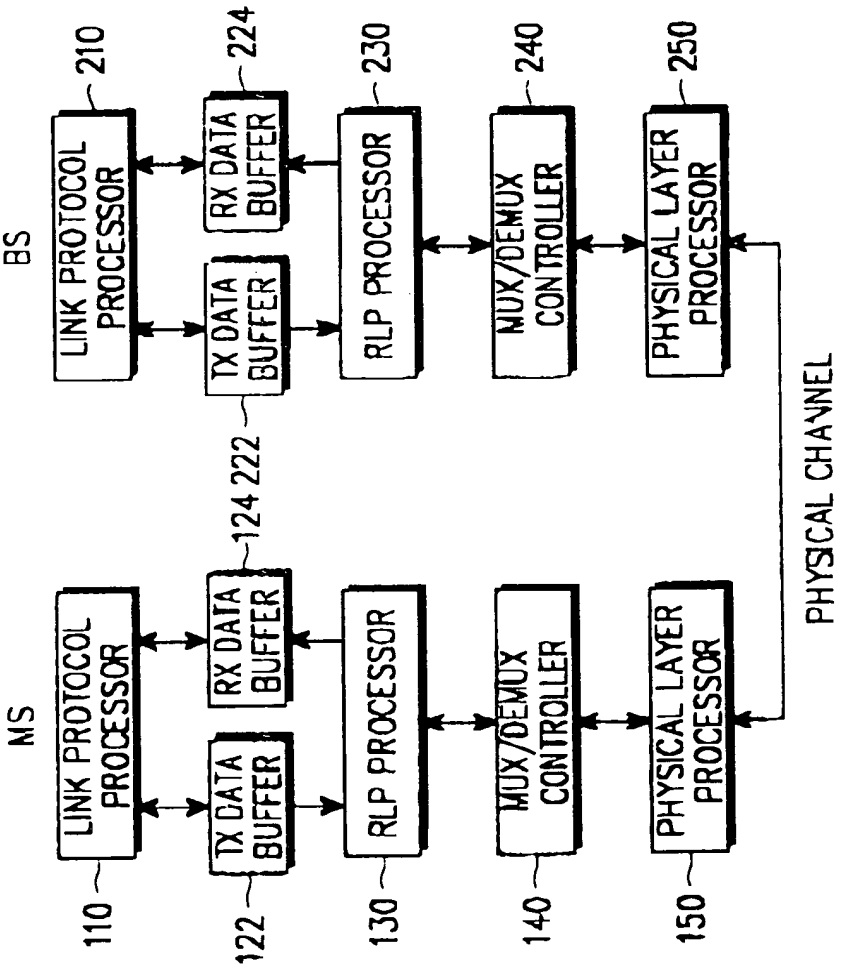

DATA NETWORK (INTERNET)
IWF
UPPER SERVICE (WEB SERVICE)
NETWORK PROTOCOL (IP)
LINK PROTOCOL (PPP)
RELAY LAYER
BS/MSC
RLP
IS-2000
RELAY LAYER
MT
RLP
IS-2000
EIA-232
MS
TE
UPPER SERVICE (WEB SERVICE)
NETWORK PROTOCOL (IP)
LINK PROTOCOL (PPP)
EIA-232

FIG. 2


MS
BS
LINK PROTOCOL PROCESSOR
110
TX DATA BUFFER
122
RX DATA BUFFER
124
222
RLP PROCESSOR
130
MUX/DEMUX CONTROLLER
140
PHYSICAL LAYER PROCESSOR
150
PHYSICAL CHANNEL
LINK PROTOCOL PROCESSOR
210
TX DATA BUFFER
RX DATA BUFFER
224
RLP PROCESSOR
230
MUX/DEMUX CONTROLLER
240
PHYSICAL LAYER PROCESSOR
250

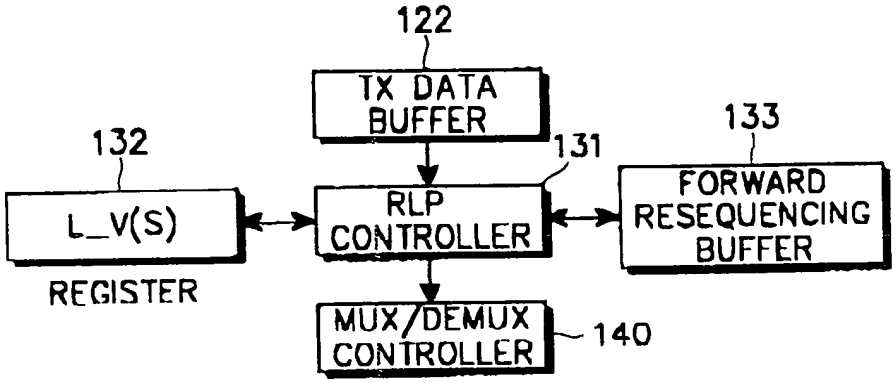

122
TX DATA BUFFER
132
L_V(S)
REGISTER
131
RLP CONTROLLER
133
FORWARD RESEQUENCING BUFFER
MUX/DEMUX CONTROLLER
140

FIG. 3

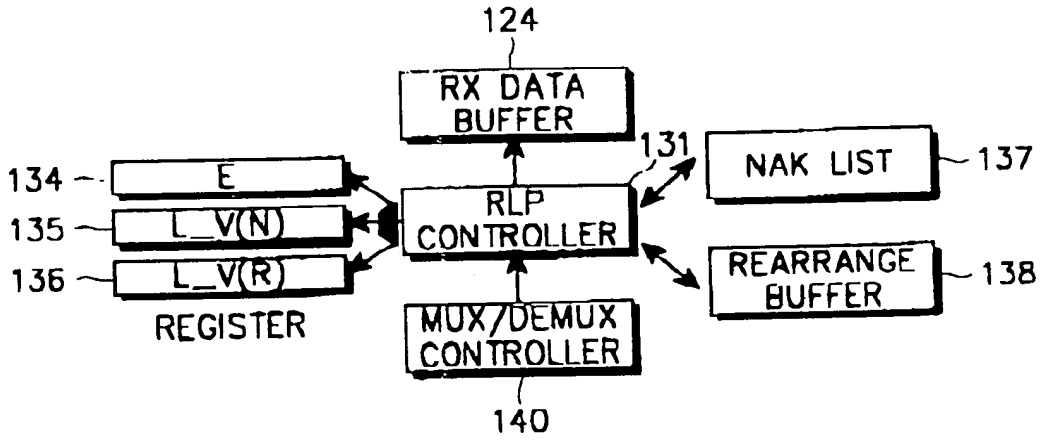

124
RX DATA BUFFER
131
NAK LIST
137
134
E
135
L_V(N)
136
L_V(R)
REGISTER
RLP CONTROLLER
REARRANGE BUFFER
138
MUX/DEMUX CONTROLLER
140

FIG. 4

FIG. 5

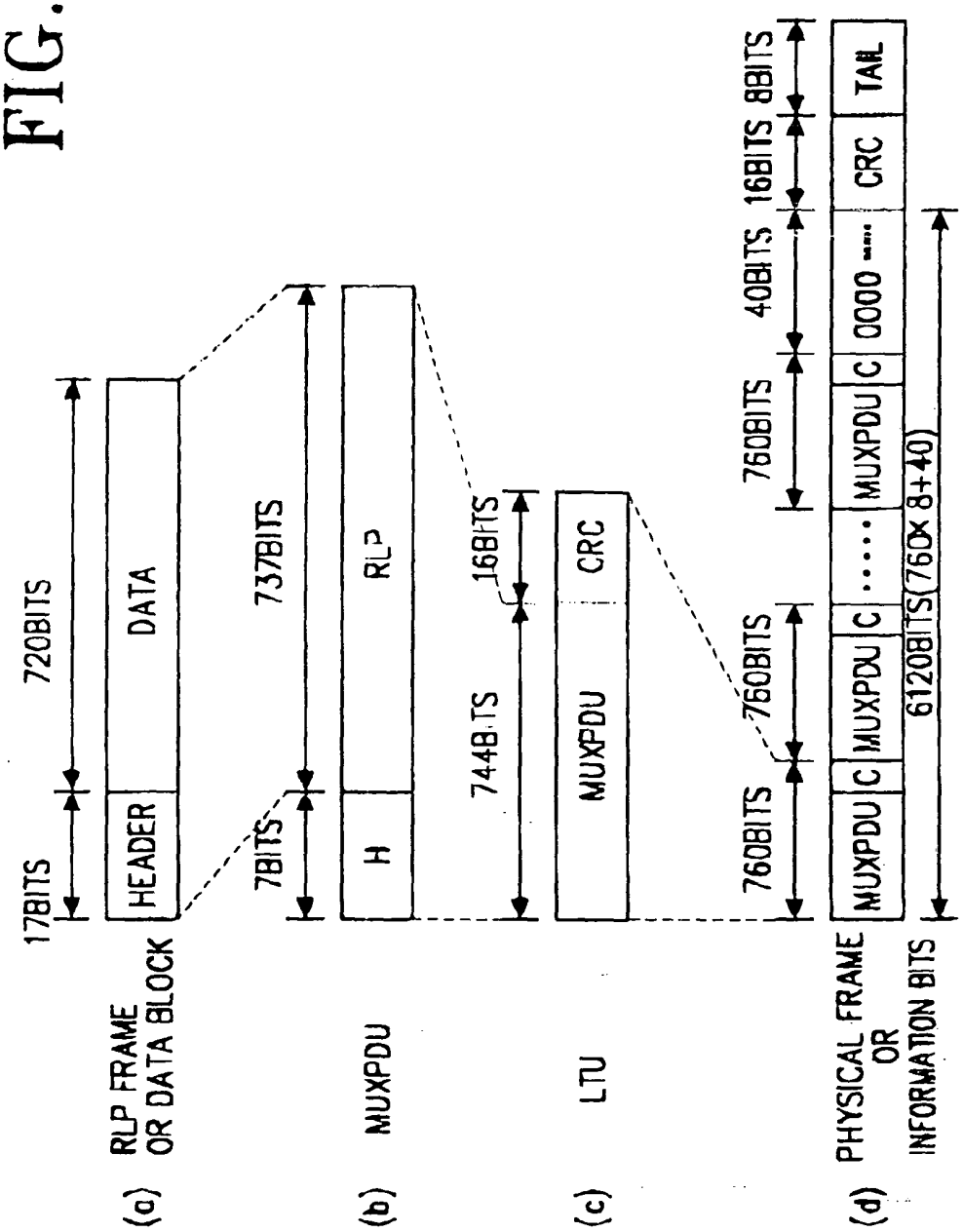
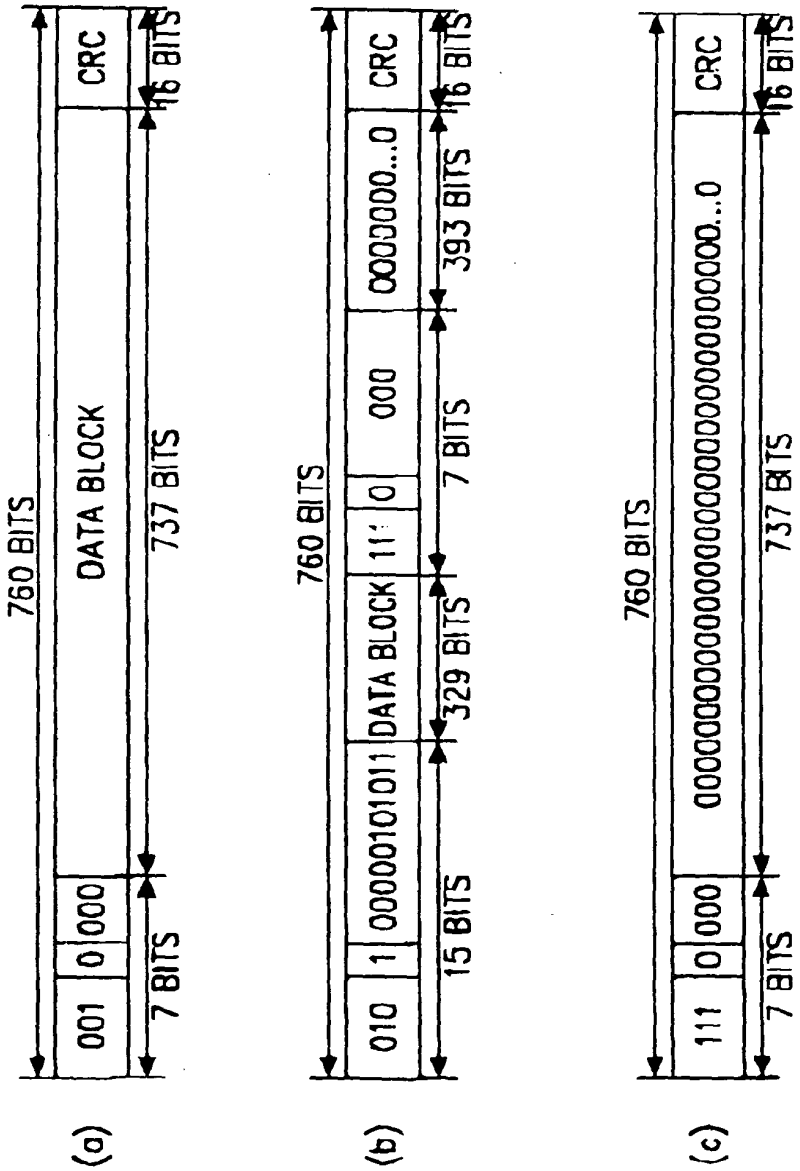
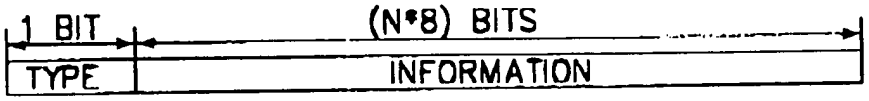

(a) RLP FRAME OR DATA BLOCK
17BITS
720BITS
HEADER
DATA
7BITS
737BITS
(b) MUXPDU
H
RLP
744BITS
16BITS
(c) LTU
MUXPDU
CRC
760BITS
760BITS
760BITS
40BITS
16BITS
8BITS
(d) PHYSICAL FRAME OR INFORMATION BITS
MUXPDU
C
MUXPDU
C
.....
MUXPDU
C
0000 ....
CRC
TAIL
6120BITS(760× 8+40)

FIG. 6


760 BITS
001
0
000
DATA BLOCK
CRC
7 BITS
737 BITS
16 BITS
(a)
760 BITS
010
1
0000101011
DATA BLOCK
11
0
000
000000...0
CRC
15 BITS
329 BITS
7 BITS
393 BITS
16 BITS
(b)
760 BITS
111
0
000
00000000000000000000000000000...0
CRC
7 BITS
737 BITS
16 BITS
(c)

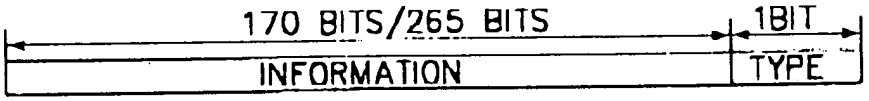
TYPE A DATA BLOCK
FUNDAMENTAL LOW RATE FRAME

TYPE B DATA BLOCK
SUPPLEMENTAL FRAME



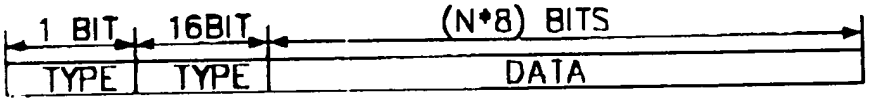
TYPE = '0'

FUNDAMENTAL RATE 1 FRAME



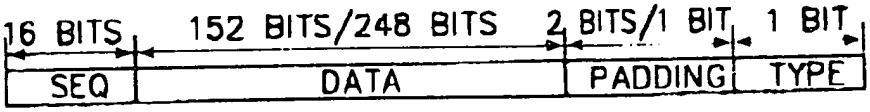
TYPE = '0'

TYPE C DATA BLOCK
SUPPLEMENTAL DATA FRAME



TYPE = '1'

FUNDAMENTAL RATE 1 DATA FRAME



TYPE = '1'

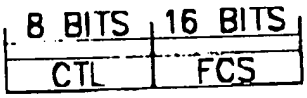
FIG. 7

INFORMATION
EXCEPT 1/8 RATE

ONE CONTROL FRAME, OR AT MOST ONE DATA FRAME AND RETRANSMITTED FRAMES

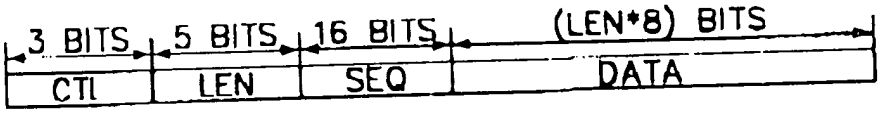
IDLE FRAME(1/8 .RATE ONLY)

SYNC, SYNC/ACK,ACK FRAME

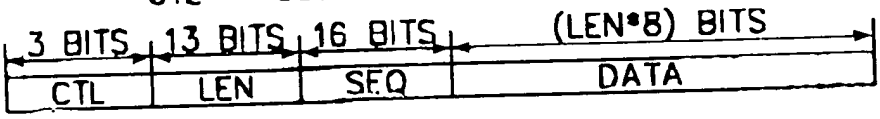


CTL – '11100001' FOR SYNC, '11100010' FOR SYNC/ACK, '11100011' FOR ACK

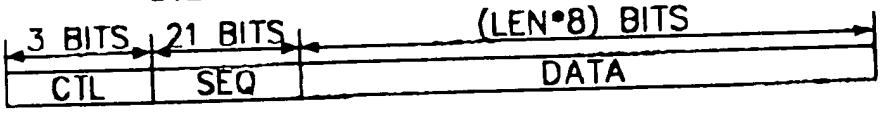
VARIABLE–LENGTH DATA FRAME



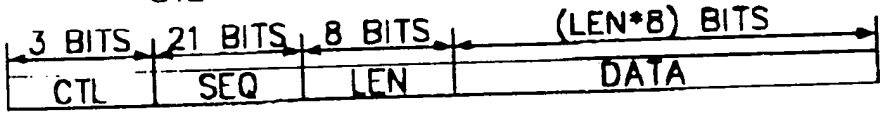
CTL = '001'



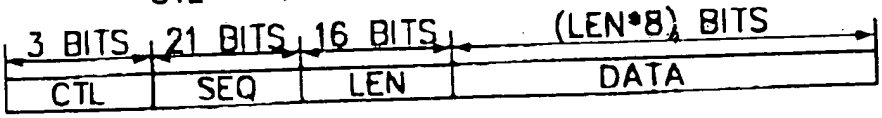
CTL = '010'



CTL = '100'



CTL = '101'



CTL = '110'

FIG. 8

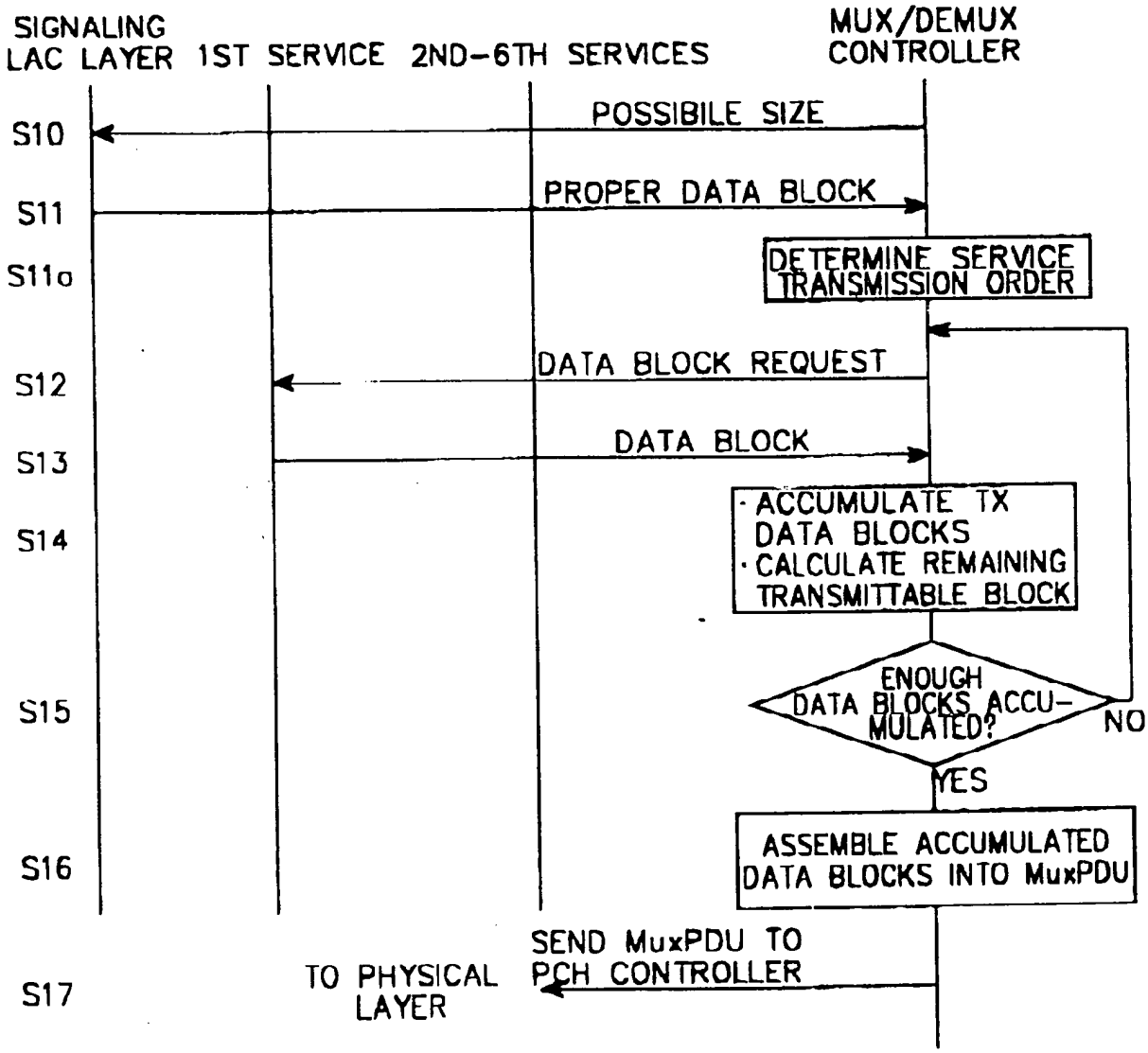

SIGNALING LAC LAYER
1ST SERVICE
2ND-6TH SERVICES
MUX/DEMUX CONTROLLER
S10
POSSIBILE SIZE
S11
PROPER DATA BLOCK
S11o
DETERMINE SERVICE TRANSMISSION ORDER
S12
DATA BLOCK REQUEST
S13
DATA BLOCK
S14
· ACCUMULATE TX DATA BLOCKS
· CALCULATE REMAINING TRANSMITTABLE BLOCK
S15
ENOUGH DATA BLOCKS ACCUMULATED?
NO
YES
S16
ASSEMBLE ACCUMULATED DATA BLOCKS INTO MuxPDU
SEND MuxPDU TO PCH CONTROLLER
S17
TO PHYSICAL LAYER

FIG. 9

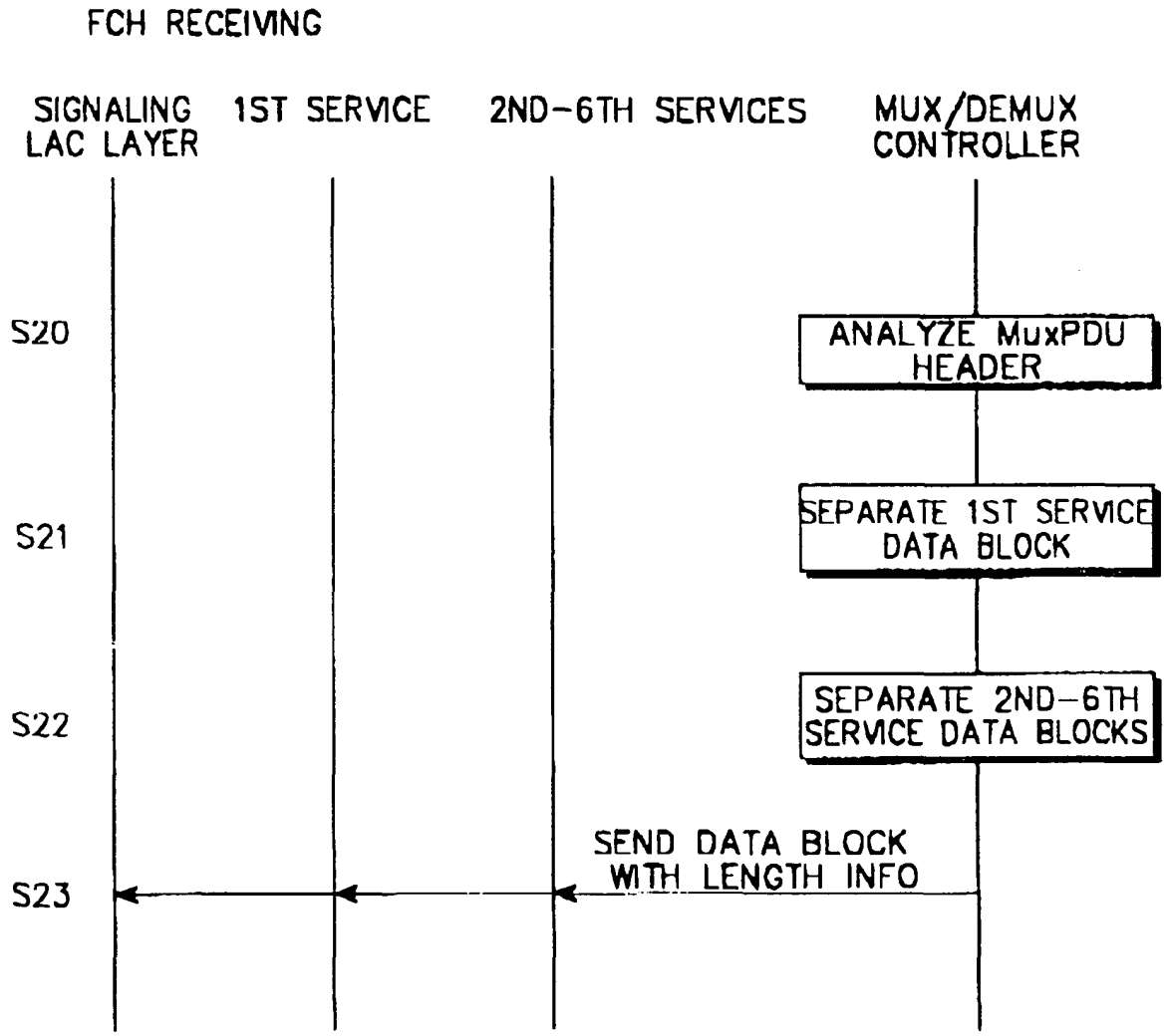

FCH RECEIVING
SIGNALING LAC LAYER
1ST SERVICE
2ND-6TH SERVICES
MUX/DEMUX CONTROLLER
S20
ANALYZE MuxPDU HEADER
S21
SEPARATE 1ST SERVICE DATA BLOCK
S22
SEPARATE 2ND-6TH SERVICE DATA BLOCKS
S23
SEND DATA BLOCK WITH LENGTH INFO

FIG. 10

SCH TRANSMISSION

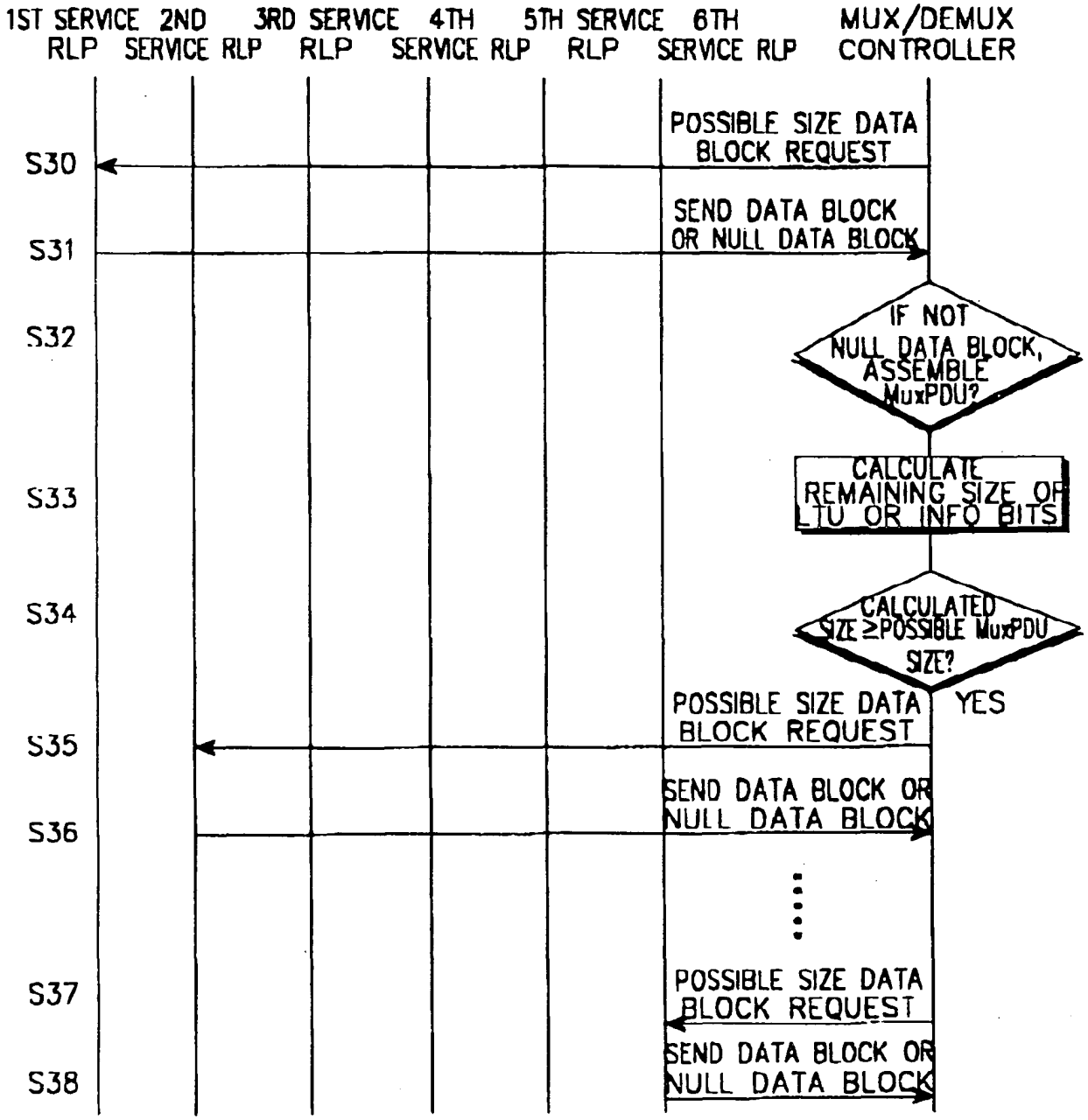


FIG. 11

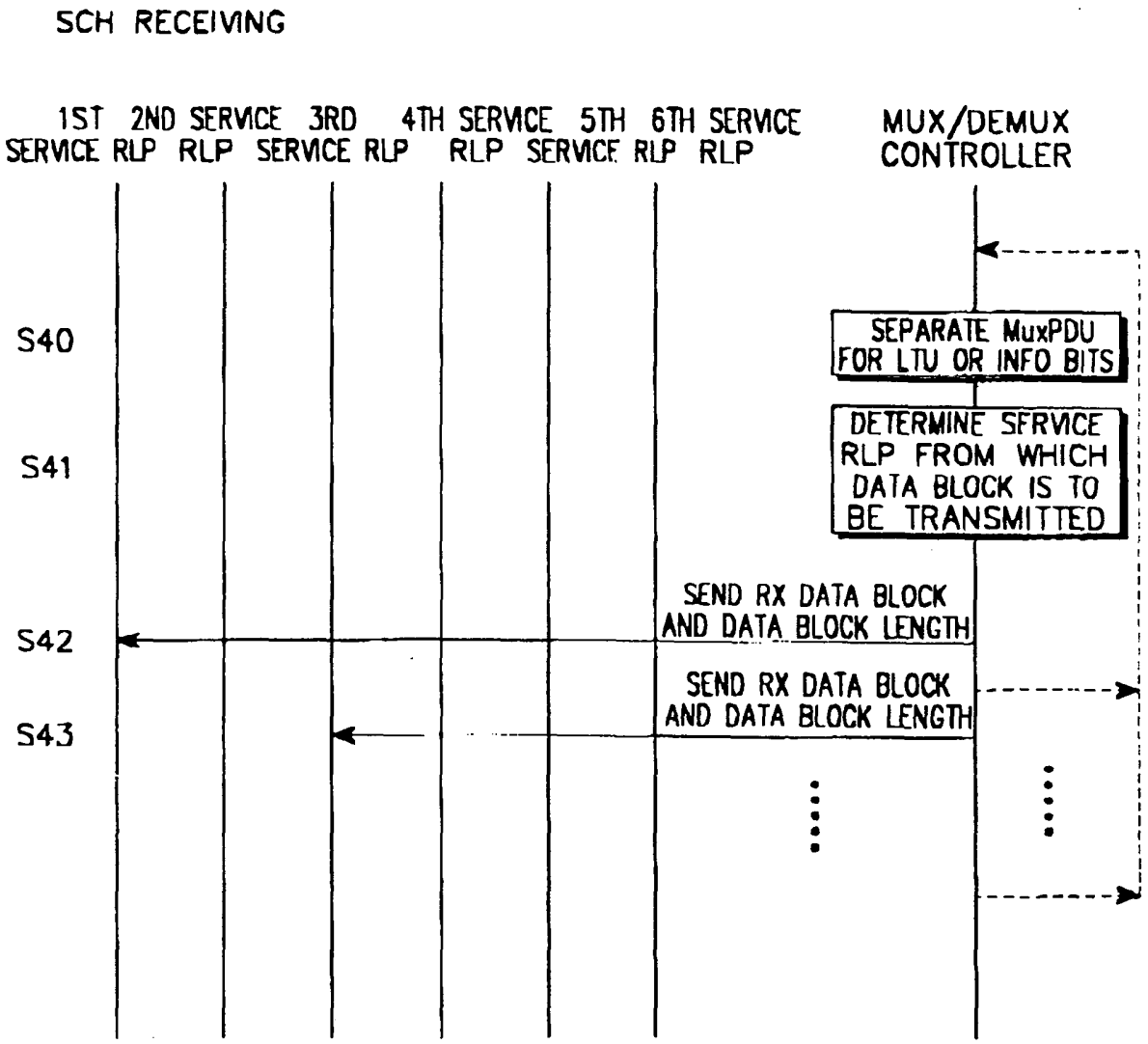

SCH RECEIVING
1ST SERVICE RLP
2ND SERVICE RLP
3RD SERVICE RLP
4TH SERVICE RLP
5TH SERVICE RLP
6TH SERVICE RLP
MUX/DEMUX CONTROLLER
S40
SEPARATE MuxPDU FOR LTU OR INFO BITS
S41
DETERMINE SERVICE RLP FROM WHICH DATA BLOCK IS TO BE TRANSMITTED
S42
SEND RX DATA BLOCK AND DATA BLOCK LENGTH
S43
SEND RX DATA BLOCK AND DATA BLOCK LENGTH

FIG. 12